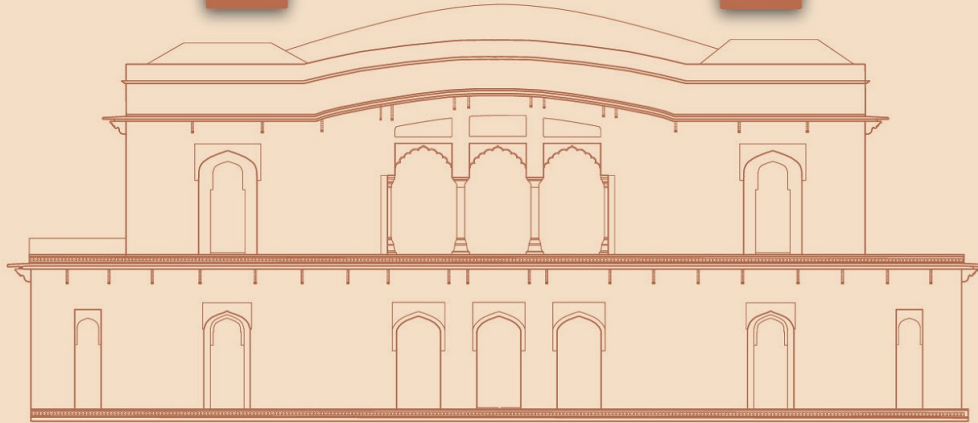


Project Brief

RESTORING, RETROFITTING AND 3D ARCHITECTURAL DOCUMENTATION OF HISTORICAL MUGHAL HAMMAM OF LALBAGH FORT PROJECT



Department of Archaeology
Ministry of Cultural Affairs
Government of the People's Republic of Bangladesh

The Mughal Hammamkhana of Lalbagh Fort is a historic structure located in Lalbagh, Dhaka, Bangladesh. The Lalbagh Fort itself was built in the mid-17th century by Prince Muhammad Azam, the third son of Emperor Aurangzeb. The fort is a significant monument of Mughal architecture, showcasing the fusion of Mughal and Bengal architectural styles.

The Mughal Hammamkhana or the Royal Bathhouse is one of the notable structures within the Lalbagh Fort complex. The hammam was constructed during the Mughal period, possibly during the reign of Emperor Aurangzeb.

2

The Hammamkhana is square-shaped and consists of five rooms, each covered with a dome. At the apex of each dome, there is an oculus for lighting and ventilation. The four corner rooms have various purposes, such as a changing room, restroom, and water heating closets. In the north, there is a water tank with copper inlet and outlet pipes for water supply. The hexagonal blue and white floor tiles not only enhance the aesthetic appeal of the hammam, but also provide a slip-resistant surface for users.

Over the years, the Hammamkhana has undergone several modifications, renovations and interventions for various purposes. Therefore, the project for Restoring, Retrofitting, and 3D Architectural Documentation of the Mughal Hammamkhana of Lalbagh Fort was undertaken to preserve this significant cultural heritage of Bangladesh.

The project has been implemented to celebrate the golden jubilee of the Independence of Bangladesh, the birth centenary of Father of the Nation Bangabandhu Sheikh Mujibur Rahman and golden jubilee of U.S.-Bangladesh friendship by the Department of Archaeology under the Ministry of Cultural Affairs and funded by the U.S Department of State's Ambassadors Fund for Cultural Preservation (AFCP) Program.



Justification of the Project

The Mughal Hammamkhana of Lalbagh Fort is a rare example of Mughal architecture in Bangladesh, and it serves as a testament to the grandeur of the Mughal period. As a result, the restoration, retrofitting, and 3D architectural documentation of this significant cultural heritage site would provide invaluable insights into the social, cultural, and architectural practices of the Mughal era.

Moreover, the project aims not only to restore and conserve the Hammamkhana but also to document its 3D architectural design which would serve as a valuable reference for future restoration and conservation efforts. The use of 3D architectural documentation techniques would also provide a unique opportunity to visualize the structure in greater details, allowing for the identification of previously unknown architectural features.







The presence of observable floor cracks on the first level of the building has necessitated restrictions on access for structural safety reasons. To assess the structural integrity of the edifice, it was imperative to conduct an engineering examination on scientific principles. This enabled a precise estimation of the maximum allowable occupancy of the aforementioned floor.

Furthermore, the project's significance extends beyond cultural and historical preservation as it has the potential to attract tourists, researchers and generations to come.

It is also crucial to highlight that the restoration process involves careful planning, attention to detail, and the use of traditional materials and techniques to preserve the authenticity (original design, structure and material) of the Hammamkhana. The project's success relies heavily on the expertise of skilled artisans and conservationists, who must strike a balance between preserving the original design and addressing the damage and decay that the structure has endured over the years. Finally, the project serves to safeguard Bangladesh's rich cultural heritage and highlights the importance of preserving historic buildings and monuments for future generations.



PROJECT AT A GLANCE

 PROJECT NAME	 IMPLEMENTING AGENCIES	 FUNDING AGENCY	 DURATION	 BUDGET
Restoring, Retrofitting and 3D Architectural Documentation of Historical Mughal Hammam of Lalbagh Fort	 Department of Archaeology Ministry of Cultural Affairs	The U.S. Department of State's Ambassadors Fund for Cultural Preservation (AFCP) Program	30 months October 2020 to March 2023 Initially, the project duration was 24 months, but due to the COVID-19 pandemic situation, the project duration was extended by additional 06 months.	TOTAL USD 185,934.00

PRIMARY OBJECTIVES OF THE PROJECT



Activities of the Project

RESEARCH AND DOCUMENTATION:

Collection and review old designs, photographs, conservation reports, and reference books

HERITAGE IMPACT ASSESSMENT:

A comprehensive assessment to identify the impacts and based on this report, relocation of the museum objects

LOAD BEARING TEST:

Conduct load bearing test to verify weight-bearing capacity of first floor and empty results to inform renovation plans and ensure building safety

3D ARCHITECTURAL DOCUMENTATION:

Complete pre-conservation, during conservation, and post-conservation documentation using 3D models to analyze architectural features and identify areas for improvement

CRACK ANALYSIS:

To identify the extent, depth, and condition of cracks on 1st floor, development of plan to repair and reinforce cracks to ensure building stability

DEPLASTERING, DISMANTLING AND REMOVAL OF ELECTRIFICATION:

Dismantle and deplaster hammam building to identify changes in architectural features and materials, identify changes and assess their impact on the building's structural integrity. Using the information to inform conservation plans

IDENTIFICATION OF ANCIENT WATER SUPPLY:

Identification of location and condition of water supply system inside the hammam

CHEMICAL ANALYSIS:

Analyze materials obtained from deplastering

ELECTRIFICATION, LIGHTING, DRAINAGE:

The interior of the building has been newly electrified, and new skylights have been installed and made by opening the domes to represent the Mughal design. A new drainage system has been designed for the roof, which will drain the water and increase the building's safety and durability.

RETROFITTING:

Comprehensive retrofitting has been performed on the building to make it safer and increase its durability.

POINTING AND PLASTERING OF THE INTERIOR AND THE EXTERIOR:

The uneven surfaces, damaged, and dilapidated walls of the building's interior and exterior have been finished using pointing and plastering.

DEVELOPMENT OF VISITORS' FACILITIES:

Careful architectural design and the incorporation of modern equipment and services has been done to maximize the quality of the visitors' experiences

Inauguration of the Project

On March 24, 2021, State Minister for Cultural Affairs K M Khalid MP and the United States Ambassador to Bangladesh Earl R. Miller officially inaugurated the project in Lalbagh Fort. Secretary of the Ministry of Cultural Affairs was the chair of the inauguration program. Officials from the Ministry of Cultural Affairs, Department of Archaeology, U.S. Embassy Dhaka, Local stakeholder, researchers, university faculties and representatives from the print and electronic media were present on the program.

The inauguration program started with a ceremonial photographic drone launch, followed by a tour of the grounds by the honorable guests. The 3D architectural documentation of the Hammamkhana has been done using the drones. Later on the output from the photogrammetry was rechecked by manual measurement and observation.

6



Honorable State Minister K. M. Khalid MP delivering his inaugural speech on the program as the chief guest



His excellency honorable U.S. ambassador to Bangladesh Earl R. Miller delivering his inaugural speech on the program as the special guest



Ceremonial drone flying by guests



Guests after ceremonial drone flying



On-site visit at Hammamkhana by the honorable guests



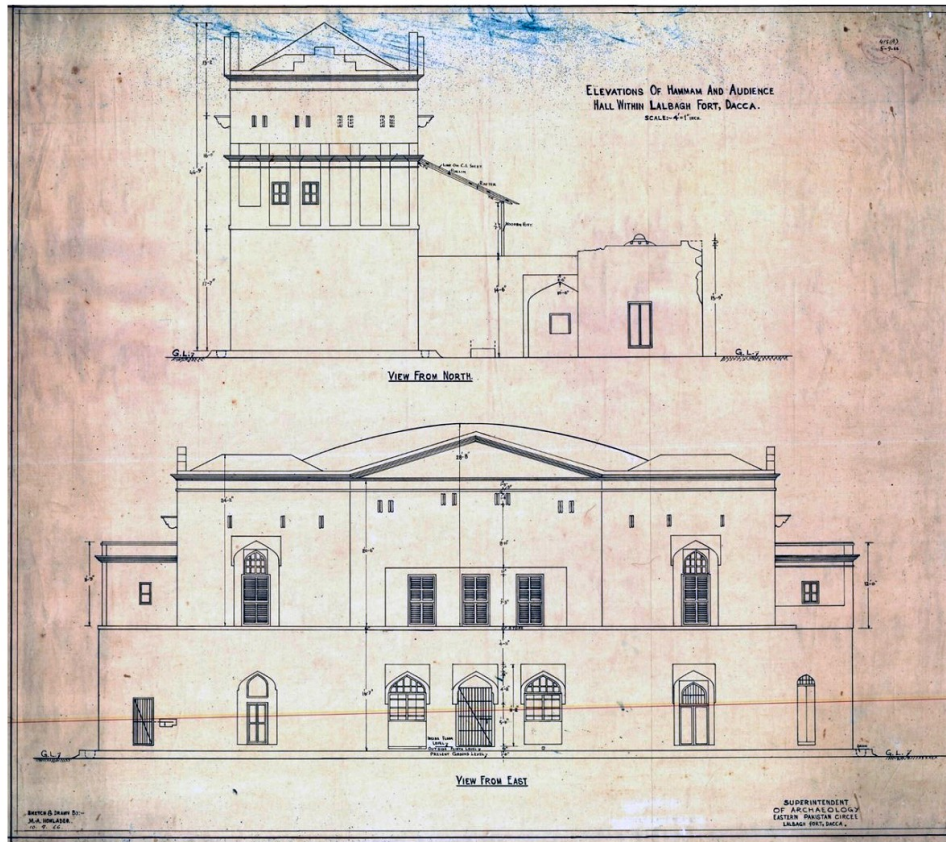
Project implementation team with the honorable guests

Archival Survey & Research

To start with the project, extensive archival survey and literature review was done. Books and articles, previous drawings, glass negative photos were studied before starting the conservation.

8





SECTION OF HAMMAM AND AUDIENCE HALL
WITHIN LALBAGH FORT DACCA
SCALE 4" = 1'

SECTION ON E.F.

SIDE ELEVATION OF SOUTH VIEW ON M.M.

SECTION ON A. B.

SECTION ON C. D.

DESIGNED BY
CAPTAIN HAMILTON KIRKE
AND MAJOR FORT, 1857

Photogrammetry & 3D Documentation

The methodology of architectural documentation and conditional survey of Hammamkhana involves a precise documentation approach that combines on-site manual survey and photogrammetry. The objective of this documentation process was to provide accurate and reliable information about the current state of the building, which will inform conservation actions and help plan for its future preservation.

12



Conditional Assessment and 2D Measured Drawing

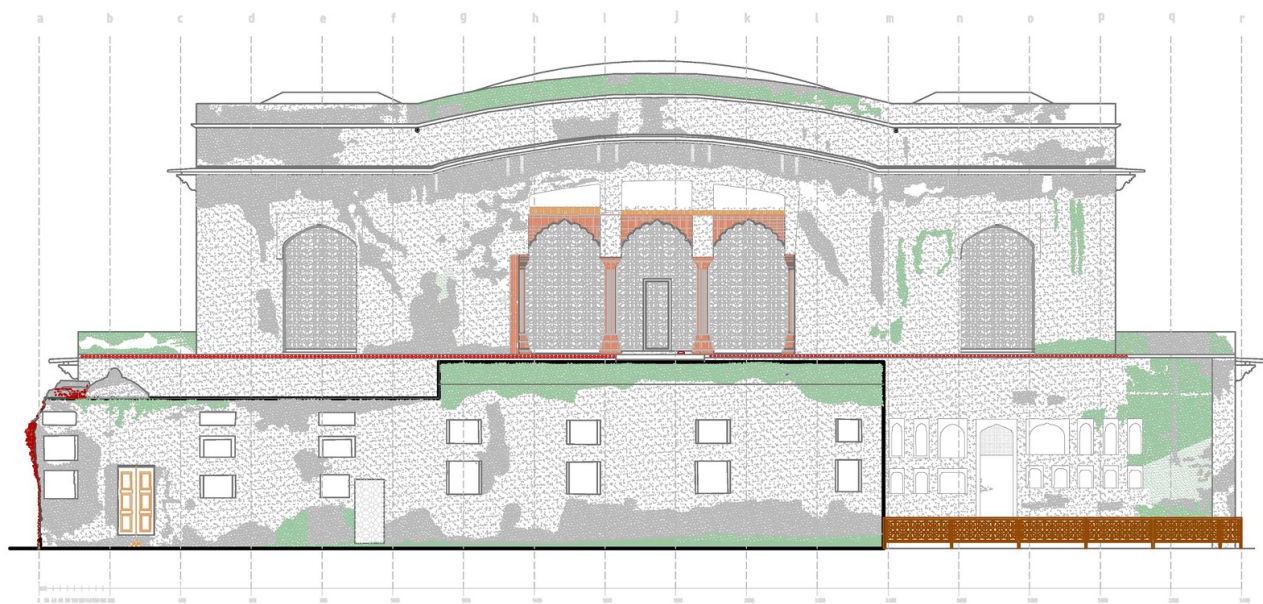


EAST ELEVATION

As built structure	
Plaster	
Algae	
Stone	
Motifs/Patterns	

DRAWING SCALE
1:300

DRAWING DESCRIPTION
EAST ELEVATION
DRAWING NO: PLAN 04
DATE: 5-09-2021

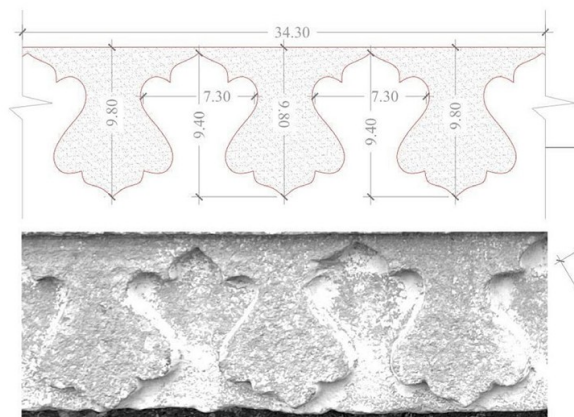


WEST ELEVATION

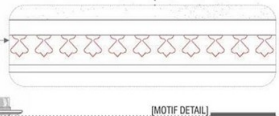
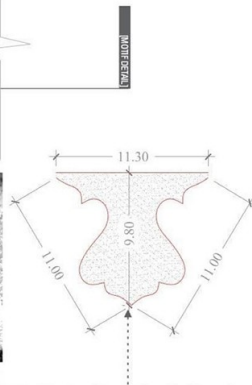
As built structure	
Plaster	
Algae	
Stone	
Motifs/Patterns	
Brick	
Patches	

DRAWING SCALE
1:200

DRAWING DESCRIPTION
WEST ELEVATION
DRAWING NO: PLAN 04
DATE: 5-08-2021

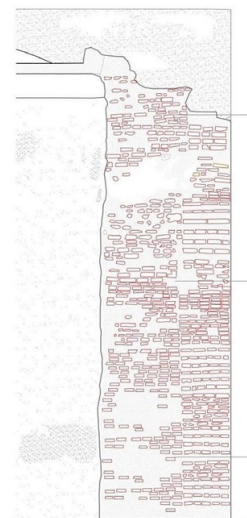


[EAST ELEVATION]

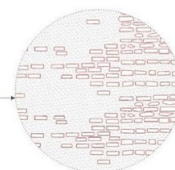
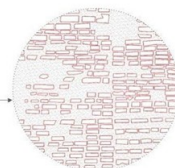
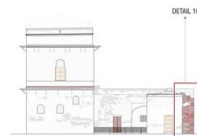


DRAWINGS SCALE
As presented

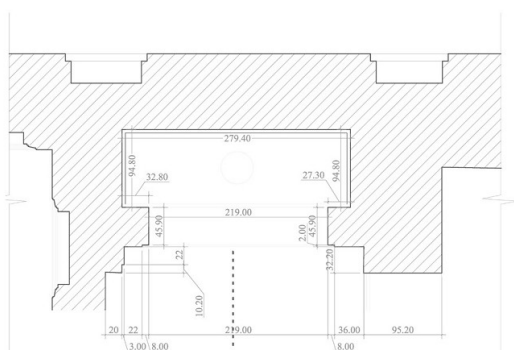
DRAWINGS DESCRIPTION
DRAWING NO: INTERIOR DETAIL
DATE: 5-09-2021



[NORTH ELEVATION]



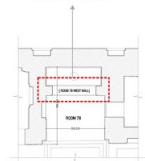
DETAIL 16



[ROOM 7B WEST WALL]

[ELEVATION OF ROOM 7B WEST WALL]

ROOM 7B WEST WALL



DRAWINGS SCALE

As presented

DRAWINGS DESCRIPTION

DRAWING NO: INTERIOR DETAIL
DATE: 5-09-2021

Structural Analysis

To know more about the Hammamkhana and prepare a proper conservation plan Brick Compressive Strength Analysis, Load Bearing Wall's Capacity, Roof Water Penetration Test, Floor Crack Vulnerability analysis, Floor Deflection Measurement, chemical analysis was done. Each of the analysis was done by the experts from the Department of Archaeology and other relevant organizations. The tests were very important for the hammam building because based on the results from the tests conservation plan was finalized. Structural analysis also helped the team to decide whether the first floor will be reopened for public or not.



BANGLADESH UNIVERSITY OF ENGINEERING AND TECHNOLOGY (BUET)
DEPARTMENT OF CIVIL ENGINEERING
 Mobile: 01718557564; PABX: 00177300 Ext. 7208
<http://buetcivil.ce.buet.ac.bd/home>
CONCRETE LABORATORY

BRTIC No. : 1102-43596 /21-22/CE; Dt: 7/10/2021 Page 1 of 1
 Sent by : Prudential Consultant
 4025402A, Shahjadpur, Japanese School Road, Dhaka
 Ref. No. : Letter : Dt: 7/10/2021
 Project : RRAD of Maghal Hammam, Labag Project, Department of Archeology (Heritage Cell);
 Location: Maghal Hammam, Labag Fort, Year of Construction: 1678
 Sample : Brick (approximate size - 190 mm x 130 mm x 49 mm)
 Test : Compressive Strength (ASTM C67)
 Date of Test : 8/10/2021 - 10/10/2021

Sl. No.	Type of Brick (as quoted)	Specimen Designation/ Fragment	Test Sample Specimen Area (sq. in)	Specimen Height (in)	Maximum Load (lb)	Crushing Strength (psi)
1	---	---	9.07	1.89	17,606	1,940
2	---	---	8.95	1.54	8,634	900
3	---	---	8.95	1.59	17,964	2,010
4	---	---	8.95	1.31	13,230	1,460
5	---	---	8.95	1.48	10,294	1,150

Note: 1. Samples were received in unsealed condition.

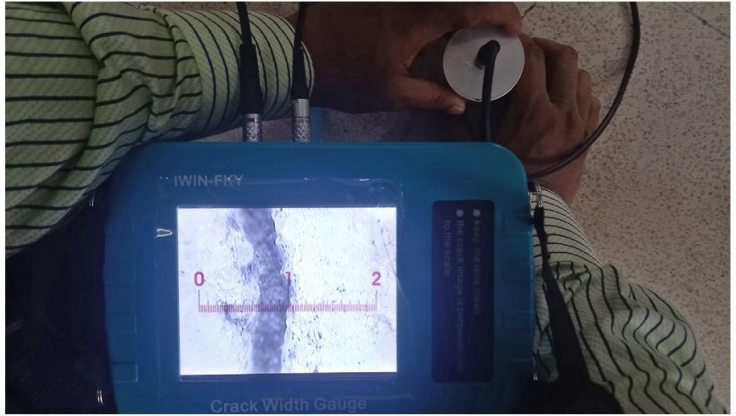
Countersigned by: Dr. A. S. M. Badruzzaman
 Professor
 Department of Civil Engineering
 BUET, Dhaka-1000, Bangladesh

Test Performed by: Saigul Alam
 Assistant Professor
 Department of Civil Engineering
 BUET, Dhaka-1000, Bangladesh

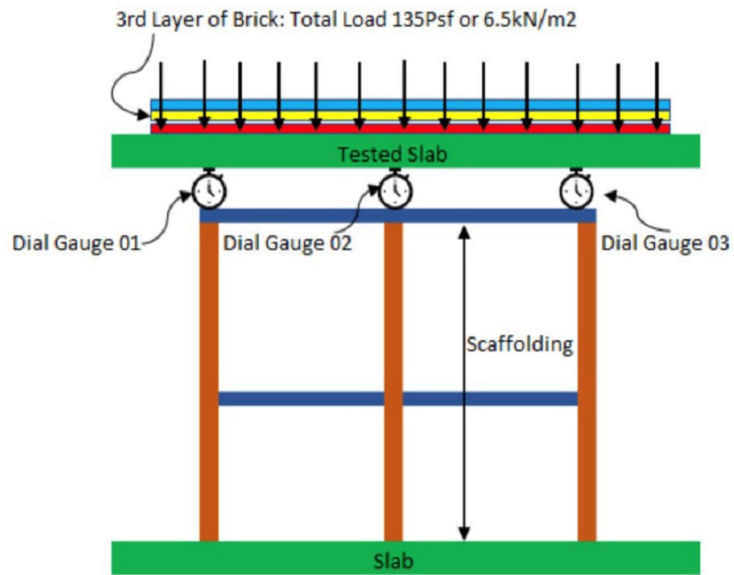
Important Notice: Samples as supplied to us have been tested in our laboratory. BRTIC does not have any responsibility as to the representativeness character of the samples required to be tested. It is recommended that samples are sent in a secure and sealed container/enclosure under signature of the competent authority. In order to avoid fraudulent fabrication of test results, it is recommended that all test reports are released by duly authorized person, and not by the Consultant/Supplier.

BUET/CE Q 20 58 30





Floor Deflection Measurement





Chemical Analysis

Analysis report of mortar/Plaster Supplied by Md. Amiruzzman,
Deputy Director, Antiquity and Protection Collected from
Hammamkhana, Lalbagh Fort.

Sample no. 1 : 1st floor's roof (southern part)		
Date of received	:	13-01-2022
Colour of Sample	:	Reddish
Nature of Sample	:	Solid
Amount of Sample used for Analysis	:	3.2 g.
Observation	:	Very fine grain sample which react with HCl (14% concentration) and producing effervescence. It indicates that it is calcareous in nature. It contained 9% (approximately) moisture.
Composition (By weight)	:	1) Lime - 28.83% 2) Surki - 71.16%
Result	:	Lime: Surki = 1: 2.46
Sample no. 2 : 1st floor's 3rd room (southern part)		
Date of received	:	13-1-2022
Colour of Sample	:	Gray and Red Mixed
Nature of Sample	:	Solid
Amount of Sample used for Analysis	:	4.0 g.
Observation	:	Very fine grain sample which react with HCl (14% concentration) and producing effervescence. It indicates that it is calcareous in nature. It contained 20% (approximately) moisture.
Composition (By weight)	:	1. Lime - 26.72% 2. Adhesive-14.50% 3. Sand-24.94% 4. Surki-33.84%
Result	:	Lime: Sand: Surki : Adhesive:= 1:0.93:1.2 6:0.54


১৩-০১-২০২২ তারিখ
প্রকৌশলিক রসায়ন বিভাগ, বাংলাদেশ
প্রকৃত্ব অধিদপ্তর

Sample no. 3 : Porcelin of ground floor's 3rd room (southern part of wall)		
Date of received	:	13-1-2022
Colour of Sample	:	Reddish
Nature of Sample	:	Solid
Amount of Sample used for Analysis	:	3.75 g.
Observation	:	Very fine grain sample which react with HCl (14% concentration) and producing effervescence. It indicates that it is calcareous in nature. It contained 17% (approximately) moisture.
Composition (By weight)	:	1) Lime - 29.06% 2) Surki - 68.16% 3) Adhesive-2.76%
Result	:	Lime : Surki: Adhesive = 1: 2.34:0.09
Sample no. 4 : Cement of ground floor's 3rd room (southern part of wall)		
Date of received	:	13-1-2022
Colour of Sample	:	Gray
Nature of Sample	:	Solid
Amount of Sample used for Analysis	:	3.90g
Observation	:	Very fine grain sample which react with HCl (14% concentration) and producing effervescence. It indicates that it is calcareous in nature. It contained 12% (approximately) moisture.
Composition (By weight)	:	1) Lime - 23.76% 2) Sand - 72.93% 3) Cement-3.3%
Result	:	Lime: Sand :Cement = 1:3.06:0.13


১৩-০১-২০২২ তারিখ
প্রকৌশলিক রসায়ন বিভাগ, বাংলাদেশ
প্রকৃত্ব অধিদপ্তর

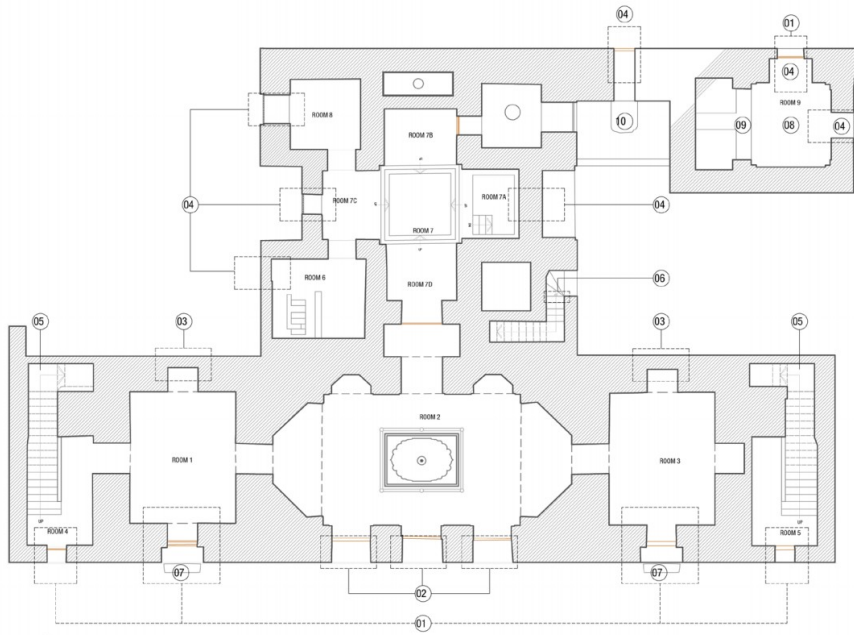
Finalization of Conservation Plan of Hammamkhana

A seminar for finalizing the draft conservation plan for Hammamkhana was organized on May 30, 2022. Senior officials from the Ministry of Cultural Affairs, Department of Archaeology and US Embassy Dhaka, Researchers, faculty members from universities like BUET (Bangladesh University for Engineering and Technology), University of Dhaka, Jahangirnagar University, Cumilla University etc., professionals from IAB (Institute of Architects Bangladesh), BIP (Bangladesh Institute of Planners), ICOMOS Bangladesh etc., local stakeholders, and consultants of the project were participated in the seminar.

On the seminar, the draft conservation plan was presented for an open discussion. There were some important observations from the audiences which was very crucial for the implementation of the project. Based on the observations from the seminar the draft conservation plan was finalized.







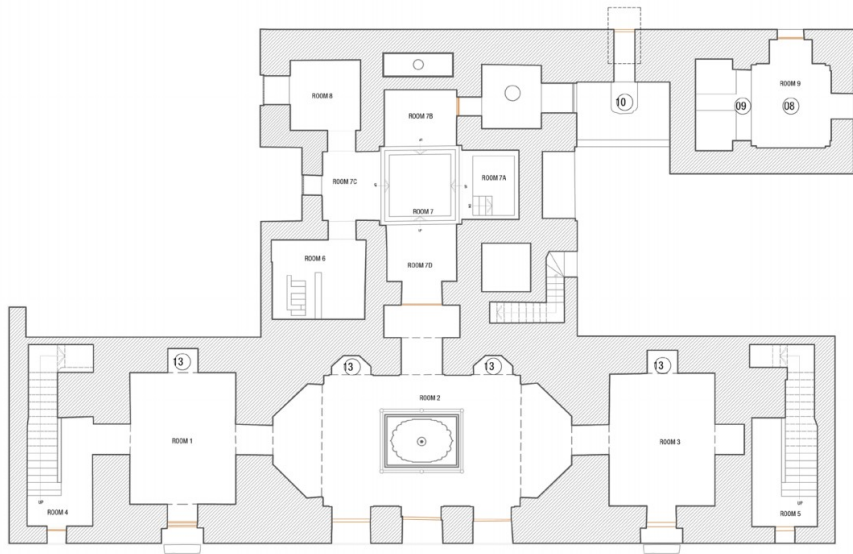
GROUND FLOOR PLAN AT 2'-6" LEVEL

NOTES :

- 01 a. Dismantle the existing incompatible doors that were likely introduced during 1960's
b. Introduce new doors that would reflect Mughal architectural character of the period.
(Reference: Drawing Number: 3a, Page 9)
- 02 a. Dismantle the existing screen made of concrete.
b. Introduce new marble screens with similar design.
(Reference: Drawing Number: 3b, Page 10)
- 03 a. Make opening.
b. Introduce new screens with similar design.
- 04 Closing of the openings with bricks.
- 05 Dismantle the existing stairs. Restoring the original stairs.
Apply flash pointing on all riser of two stairs
Installation of wooden plank on the steps of stairs
(Reference: Drawing Number: 3c, Page 13)
- 06 Relocate the existing metal grill door that was exposed on the exterior and install it inside, above the third step where it will be concealed.
- 07 Restoring the entrance steps on the ground floor.

Conservation Plan of Hammamkhana

DRAWING TITLE AND DRAWING NO	PROJECT NAME	SCALE, DATE AND DETAILS	DRAWN BY	REMARKS
Drawing 1a: Repairing, Restoration and Intervention Plan (Ground Floor Plan: Existing)	RESTORING, RETROFITTING & 3D ARCHITECTURAL DOCUMENTATION OF HISTORICAL MUGHAL HAMMAM OF LALBAGH FORT, LALBAGH, DHAKA	DEPARTMENT OF ARCHEOLOGY, MINISTRY OF CULTURAL AFFAIRS, GOVERNMENT OF BANGLADESH As Presented, 01.08.2022	Ar. Fariba Samia Om, Ar. Inamur Hossain.	



GROUND FLOOR PLAN AT 2'-6" LEVEL

NOTES :

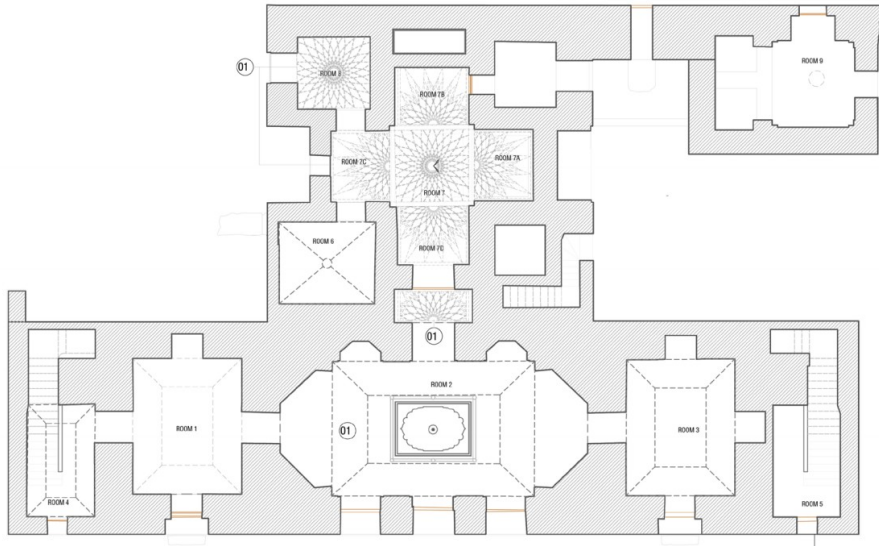
- 08 Installation of glass covering on the original tiles in the present Souvenir Corner.
(Reference: Drawing Number: 3f. Page 14.)
- 09 Installation of glass railing in the present Bangabandhu Corner
- 10 Installation of glass roof upon the stairs and the area behind the Bangabandhu Corner.
- 11 Removal of all the interior plaster and skirting.
- 12 Removal of the floor finishing in room 1,2 and 3 from 6 inch offset from the wall.
- 13 Remove the existing timber framed glass display cases built into the niches (to expose the interior architectural wall facades) and restore them as per the original architectural details.

Conservation Plan of Hammamkhana

DRAWING TITLE AND DRAWING NO	PROJECT NAME	SCALE, DATE AND DETAILS	DRAWN BY	REMARKS
Drawing 1b: Repairing, Restoration and Intervention Plan (Ground Floor Plan: Existing)	RESTORING RETROFITTING & 3D ARCHITECTURAL DOCUMENTATION OF HISTORICAL MUGHAL HAMMAM OF LALBAGH FORT, LALBAGH, DHAKA	DEPARTMENT OF ARCHEOLOGY, MINISTRY OF CULTURAL AFFAIRS, GOVERNMENT OF BANGLADESH. As Presented, 01.08.2022	Ar. Fariba Samia Om. Ar. Inamur Hossain.	

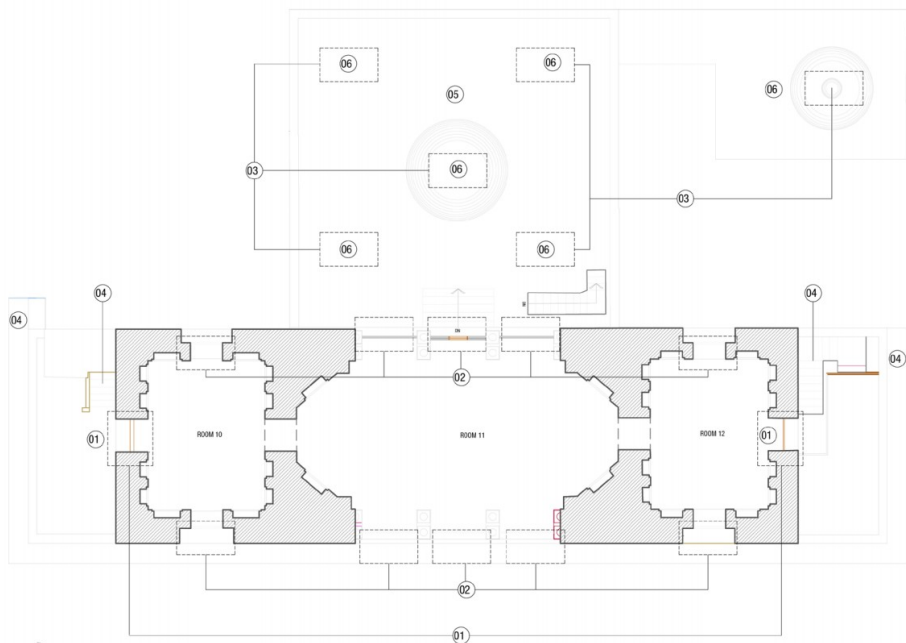
NOTES : 01 Remove the peeled off paint layers in decorative vault and dome soffits without any damage to the decorative work.

Re-plastered internal walls and soffits of the vaults and domes to be finished with lime punning and applied with lime wash.



Conservation Plan of Hammamkhana

DRAWING TITLE AND DRAWING NO.	PROJECT NAME	SCALE, DATE AND DETAILS	DRAWN BY	REMARKS
Drawing 1c: Repairing, Restoration and Intervention Plan (Ground Floor Plan: Existing - Reflected Ceiling)	RESTORING RETROFITTING & 3D ARCHITECTURAL DOCUMENTATION OF HISTORICAL MUGHAL HAMMAM OF LALBAGH FORT, LALBAGH, DHAKA	As Presented. 01.08.2022	Ar. Fariba Samia Omi. Ar. Imamur Hossain.	



FIRST FLOOR PLAN AT 5'-0" LEVEL

NOTES :

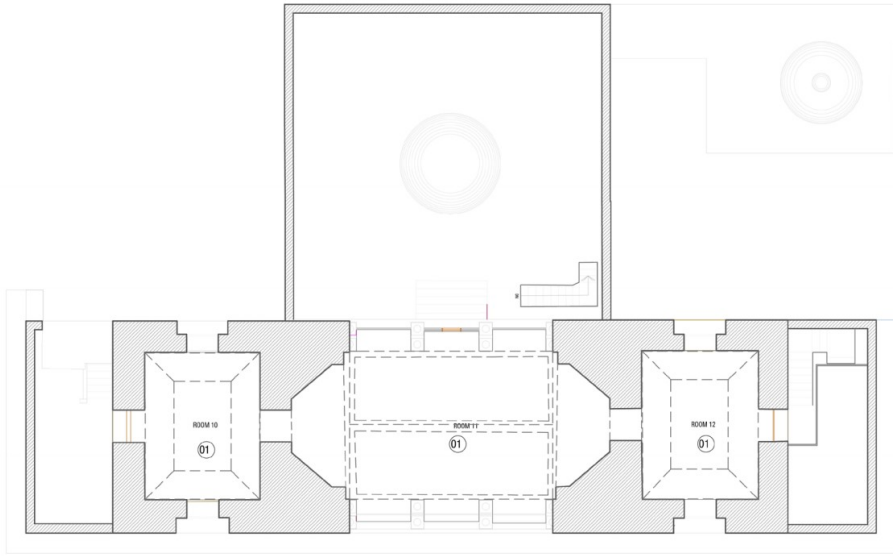
- 01 a. Dismantle the existing incompatible doors & windows introduced during 1960's
b. Introduce new doors that reflect Mughal architectural character of the period.
(Reference: Drawing Number: 3a. Page 9)
- 02 a. Dismantle the existing screen made of concrete.
b. Introduce new stone screens with similar design.
(Reference: Drawing Number: 3b. Page 10)
- 03 Expose the circular skylights at the top of the domes and install a device of glass covering to prevent the rainwater into the interior while allowing ventilation.
(Reference: Drawing Number: 3f. Page 14)
- 04 Repairing of all broken cornices and brackets
- 05 Apply lime terracing on the terrace/ roof of Hammam.
- 06 Installation of glass covering for these six light wells
- 07 Installation of Cast iron Gargoyle
- 08 Removal of the floor finishing from 5 inch offset from the wall and installation of lights focused on the wall.

Conservation Plan of Hammamkhana

DRAWING TITLE AND DRAWING NO	PROJECT NAME	SCALE, DATE AND DETAILS	DRAWN BY	REMARKS
Drawing 1d: Repairing, Restoration and Intervention Plan (First Floor Plan: Existing)	RESTORING RETROFITTING & 3D ARCHITECTURAL DOCUMENTATION OF HISTORICAL MUGHAL HAMMAM OF LALBAGH FORT, LALBAGH, DHAKA	DEPARTMENT OF ARCHEOLOGY, MINISTRY OF CULTURAL AFFAIRS, GOVERNMENT OF BANGLADESH. As Presented. 01.08.2022	Ar. Fariba Samia Omi. Ar. Inamur Hossain.	

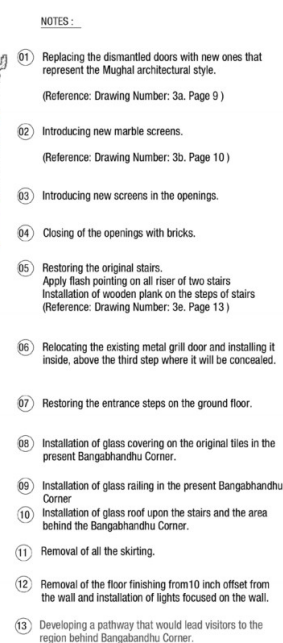
NOTES : 01 Remove the peeled off paint layers in decorative vault and dome soffits without any damage to the decorative work.

Re-plastered internal walls and soffits of the vaults and domes to be finished with lime punning and applied with lime wash.



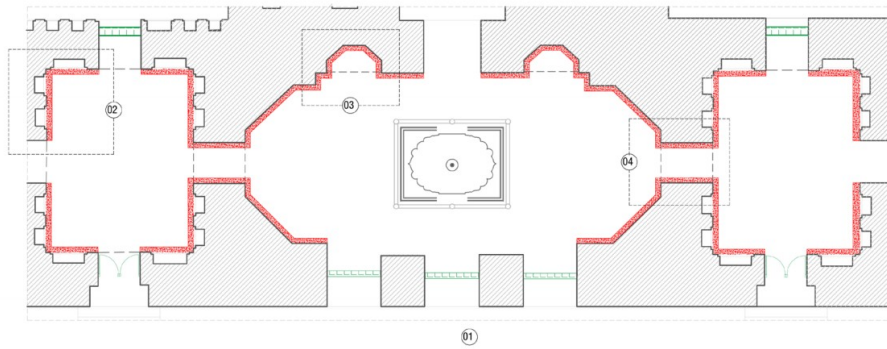
Conservation Plan of Hammamkhana

DRAWING TITLE AND DRAWING NO	PROJECT NAME	SCALE, DATE AND DETAILS	DRAWN BY	REMARKS
Drawing 1e: Repairing, Restoration and Intervention Plan (First Floor Plan: Existing - Reflected Ceiling)	RESTORING RETROFITTING & 3D ARCHITECTURAL DOCUMENTATION OF HISTORICAL MUGHAL HAMMAM OF LALBAGH FORT, LALBAGH, DHAKA	DEPARTMENT OF ARCHEOLOGY, MINISTRY OF CULTURAL AFFAIRS, GOVERNMENT OF BANGLADESH. As Presented. 01.08.2022	Ar. Fariba Samia Omi. Ar. Imamur Hoossain.	



Conservation Plan of Hammamkhana

<p>DRAWING TITLE AND DRAWING NO.</p> <p>Drawing 2a: Repairing, Restoration and Intervention Plan (Ground Floor Plan: Proposed)</p>	<p>PROJECT NAME</p> <p>RESTORING RETROFITTING & 3D ARCHITECTURAL DOCUMENTATION OF HISTORICAL MUGHAL HAMMAM OF LALBAGH FORT, LALBAGH, DHAKA</p>	<p>DEPARTMENT OF ARCHEOLOGY MINISTRY OF CULTURAL AFFAIRS, GOVERNMENT OF BANGLADESH</p>	<p>SCALE, DATE AND DETAILS</p> <p>As Presented: 01.08.2022</p>	<p>DRAWN BY</p> <p>Ar. Farida Samia Orni, Ar. Imranul Hossain.</p>	<p>REMARKS</p>
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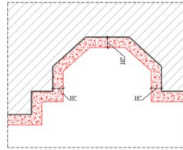


NOTES :

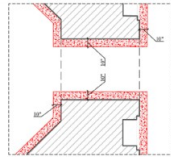
- ① Removal of the floor finishing from 10 inch offset from the wall and installation of lights focused on the wall.



02



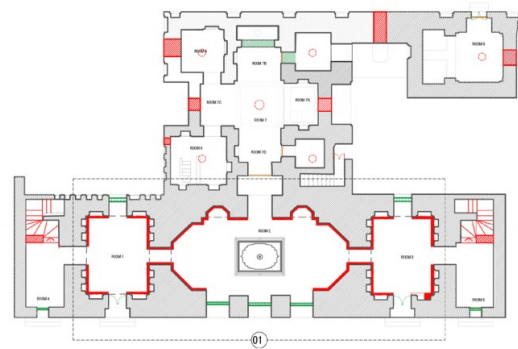
03



04

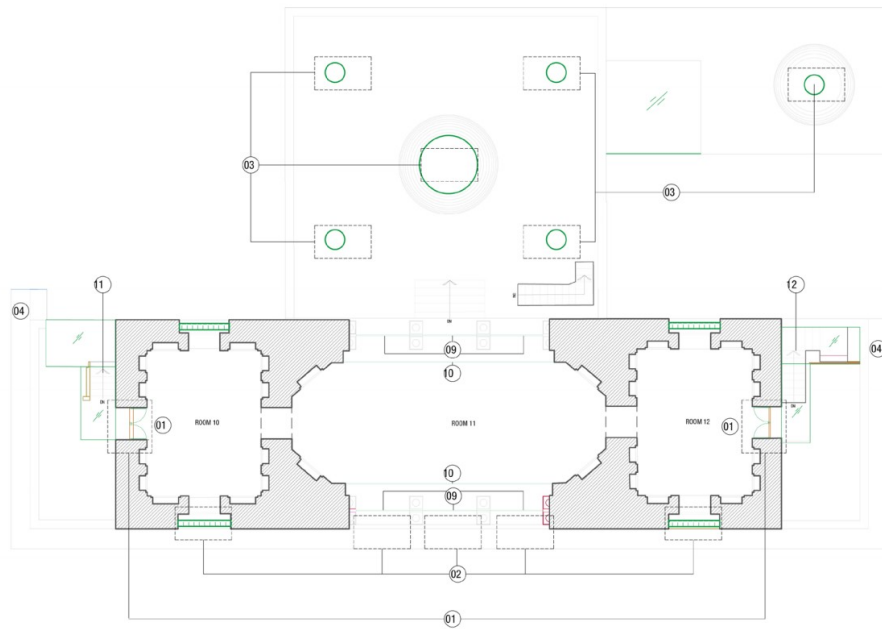


GROUND FLOOR PLAN AT 2'-6" LEVEL



Conservation Plan of Hammamkhana

DRAWING TITLE AND DRAWING NO.	PROJECT NAME	DEPARTMENT OF ARCHEOLOGY/ MINISTRY OF CULTURAL AFFAIRS GOVERNMENT OF BANGLADESH	SCALE, DATE AND DETAILS	DRAWN BY	REMARKS
Drawing 4: Repairing, Restoration and Intervention Plan (Ground Floor Plan: Proposed)	RESTORING RETROFITTING & 3D ARCHITECTURAL DOCUMENTATION OF HISTORICAL MUGHAL HAMMAM OF LALBAGH FORT, LALBAGH, DHAKA		As Presented: 01.08.2022	A: Farhat Samia Omi A: Imamur Hossain	

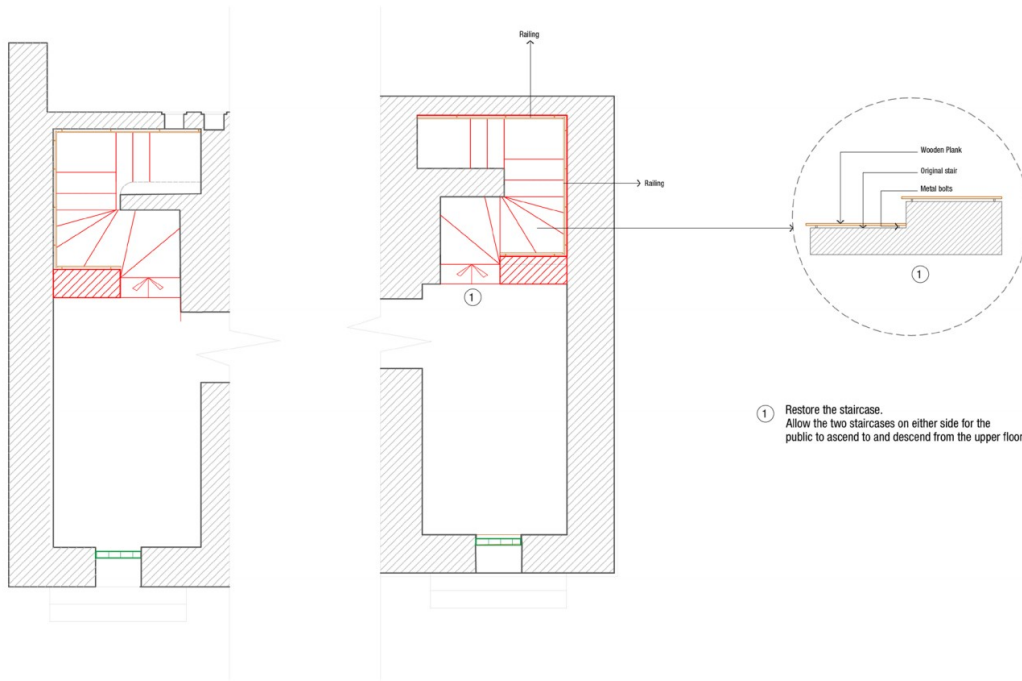


NOTES :

- 01 a. Dismantle the existing incompatible doors & windows introduced during 1960's
b. Introduce new doors that reflect Mughal architectural character of the period.
(Reference: Drawing Number: 3a. Page 9)
- 02 a. Dismantle the existing screen made of concrete.
b. Introduce new stone screens with similar design.
(Reference: Drawing Number: 3b. Page 10)
- 03 Expose the circular skylights at the top of the domes and install a device of glass covering to prevent the rainwater into the interior while allowing ventilation.
(Reference: Drawing Number: 3f. Page 14)
- 04 Repairing of all broken cornices and brackets
- 05 Apply lime terracing on the terrace/ roof of Hammam.
- 06 Installation of glass covering for these six light wells
- 07 Installation of Cast iron Gargoyles
- 08 Removal of the floor finishing from 5 inch offset from the wall and installation of lights focused on the wall.
- 09 Installation of stone parapets.
- 10 Installation of glass parapets that would permit the visitors to explore the first floor while ensuring safety.
- 11 Demolish the recently constructed canopy (RCC roof resting on brick work) over the staircase at the south side of the building, which is leading to the upper floor. Construct a glass canopy.
- 12 Construct a glass canopy.

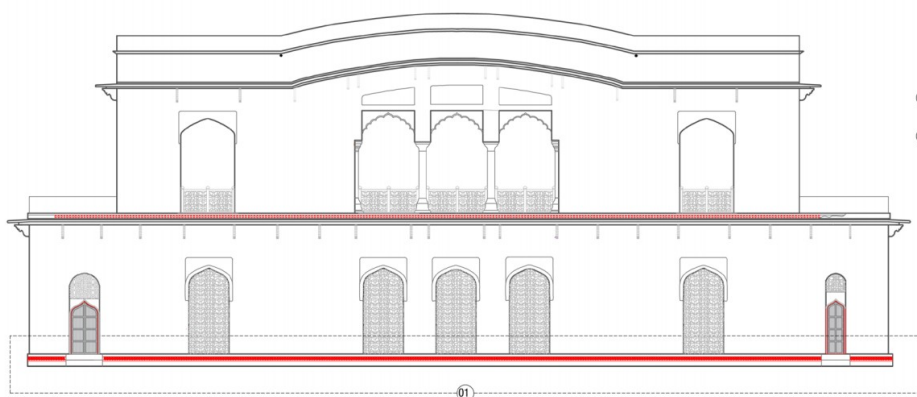
Conservation Plan of Hammamkhana

DRAWING TITLE AND DRAWING NO	PROJECT NAME	DEPARTMENT OF ARCHEOLOGY, MINISTRY OF CULTURAL AFFAIRS, GOVERNMENT OF BANGLADESH	SCALE, DATE AND DETAILS	DRAWN BY	REMARKS
Drawing 2c: Repairing, Restoration and Intervention Plan (First Floor Plan: Proposed)	RESTORING RETROFITTING & 3D ARCHITECTURAL DOCUMENTATION OF HISTORICAL MUGHAL HAMMAM OF LALBAGH FORT, LALBAGH, DHAKA		As Presented. 01.08.2022	Ar. Fariba Samia Omi. Ar. Imamur Hossain.	



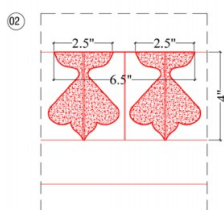
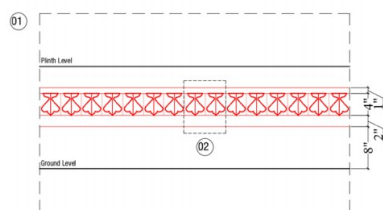
Conservation Plan of Hammamkhana

DRAWING TITLE AND DRAWING NO.	PROJECT NAME	DEPARTMENT OF ARCHEOLOGY, MINISTRY OF CULTURAL AFFAIRS, GOVERNMENT OF BANGLADESH	SCALE, DATE AND DETAILS	DRAWN BY	REMARKS
Drawing 3c: Proposed interventions : Stairs	RESTORING RETROFITTING & 3D ARCHITECTURAL DOCUMENTATION OF HISTORICAL MUGHAL HAMMAM OF LALBAGH FORT, LALBAGH, DHAKA		As Presented. 01.08.2022	Ar. Fariba Samia Omi. Ar. Inamur Hossain.	



NOTES :

- 01 Restoring the entrance steps on the ground floor.
- 02 Brick ornamentation design in the pl level.



Conservation Plan of Hammamkhana

DRAWING TITLE AND DRAWING NO	PROJECT NAME	SCALE, DATE AND DETAILS	DRAWN BY	REMARKS
Drawing 5: Repairing, Restoration and Intervention Plan	RESTORING RETROFITTING & 3D ARCHITECTURAL DOCUMENTATION OF HISTORICAL MUGHAL HAMMAM OF LALBAGH FORT, LALBAGH, DHAKA	DEPARTMENT OF ARCHEOLOGY, MINISTRY OF CULTURAL AFFAIRS, GOVERNMENT OF BANGLADESH. As Presented. 01.08.2022	Ar. Fariba Samia Omi. Ar. Inamur Hossain.	

Conservation work on Hammamkhana

Before Conservation



After Conservation











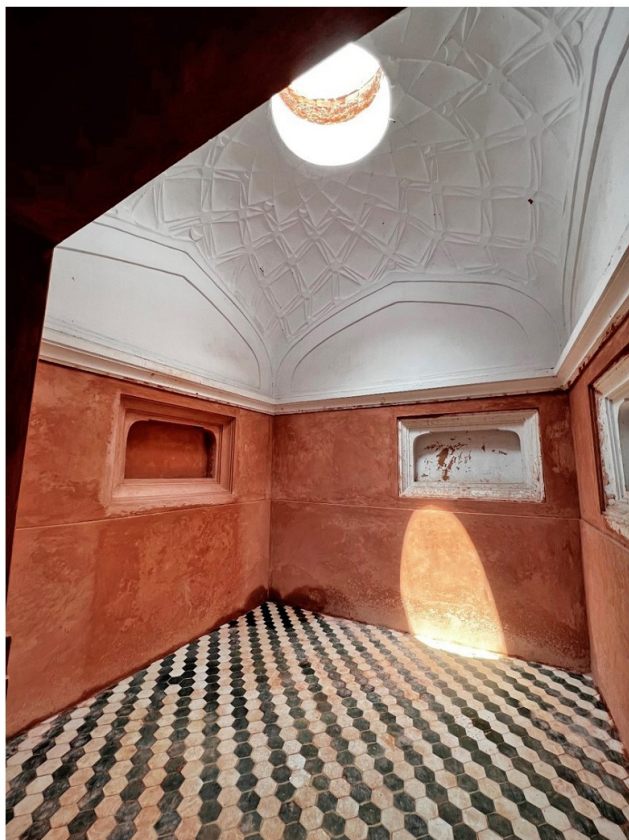


Before Conservation



After Conservation





















Stakeholder Meeting and Community Engagement

There was an active involvement of local community in this project. Project team regularly discussed with the local community about the conservation work in a participatory manner. There was a stakeholder meeting on the progress of the project. Stakeholders expressed their opinion and thoughts about the conservation work which helped the defining the next step of the work.

State Minister and Secretary of the Ministry of Cultural Affairs were also present on the stakeholder meeting. Local community, researchers, faculty members, officials from the ministry and Department of Archaeology was also present on the meeting.



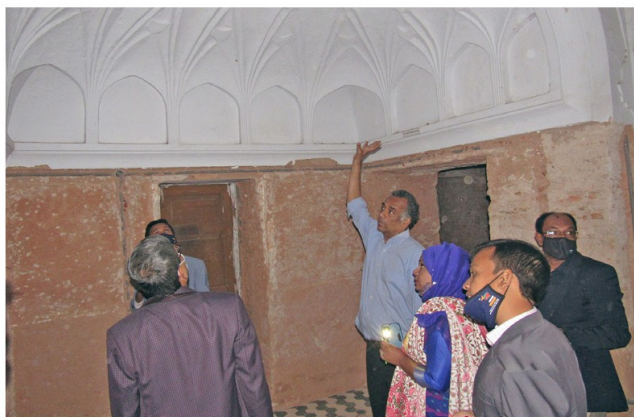


Frequent Visitations and Engagement

During the conservatio work, regular vision was conducted to properly monitor and ensure quality of the work. Project implementation team and the consultants met regularly on-site as well as on the head office of the Department of Archaeology. Group discussion sessions were very crutial for the proper implementation of the project as there was extensive intervention in the Hammamkhana. One of the Conservation Architects from Sri Lanka visited three times during the project time period. One at the starting of the dismantling work, one before finalizing the conservation plan and the last one at the end of conservation work.

Each and every aspects of conservation, intervention and new findings were throughly discussed with the consultants as well as other experts from different fields. Team from the U.S. Embassy also visited the site regularly to inspect the progress of the work and gave valuable insights. Throughout the project period the Hammamkhana also frequently visited by government higher officials and U.S. Embassy representatives.









Special Visits

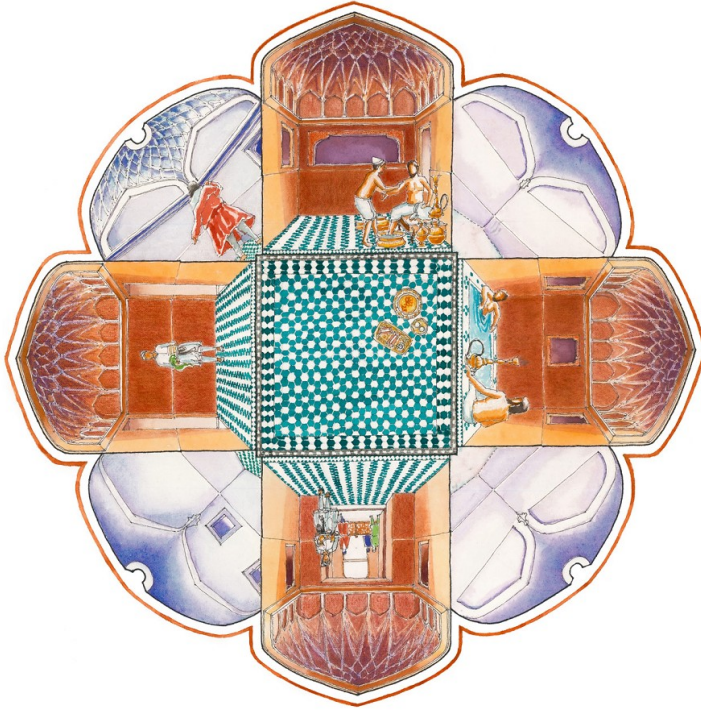
Visit of State Minister for the Ministry of Cultural Affairs



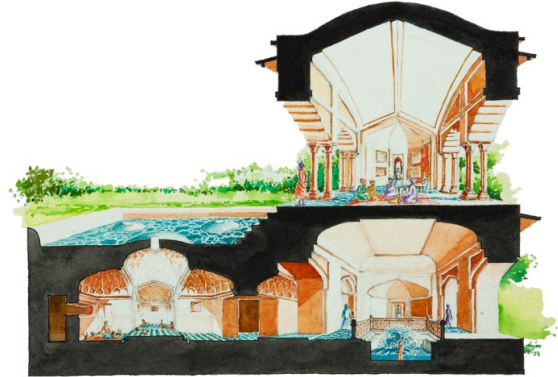
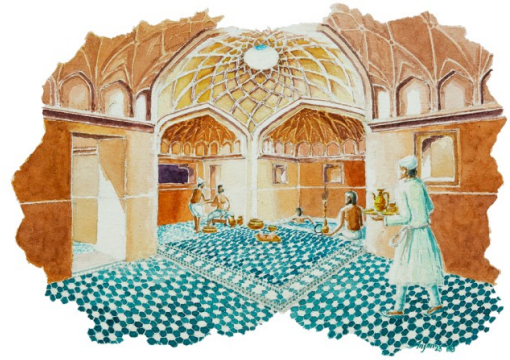
Visit of Edward M. Kennedy, Jr and his family



Presentation for Visitors



The use of hammam in the artist's imagination



Artist: Augustin Anjan Byapari









PROJECT STAFFING

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Ratan Chandra Pandit
Former Director General
22.09.2021-25.10.2022



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14.02.2021-22.09.2021



Md Hannan Mia
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01.10.2020-14.02.2021



Md Amiruzzaman
Deputy Director (Antiquities & Preservation)
DEPUTY PROJECT DIRECTOR (DPD)



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3. Estimator, Department of Archaeology
4. Sub-Assistant Engineer, Department of Archaeology
5. Assistant Custodian, Lalbagh Fort, Department of Archaeology

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Documentation Team: Ar. Imamur Hossain

Ar. Fariba Samia Omi

Ar. Muhammad Shadman Mahtab

Ar. Amzad Hossain

Ar. Faima Islam

Engineering Firm: Prudential Consultant

Glasswork Firm: Design Lab & Solution

Electrical Work Firm: IDS Systems

Acknowledgements

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We would like to thank the project sponsor U.S. Embassy Dhaka for their unwavering support and trust in our team. We are grateful to the Ministry of Cultural Affairs, Government of the People's Republic of Bangladesh for their administrative support and guidance which were crucial in ensuring that the project met its objectives.

We are also thankful to the consultants, experts, stakeholders and partners who provided valuable inputs, feedbacks, and resources to the project. Their support and collaboration were essential in achieving the project's objectives and ensuring its sustainability.

Once again, we are grateful to everyone who contributed to the Project's successful completion. Their efforts and commitments have made a significant impact on the conservation of one of the most important cultural heritage sites of Bangladesh.



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